

REMARKS

In the Office Action, claims 1, 3-21 and 23-72 were rejected. By the present response, claims 1, 21, 41, 48, 58 and 68 have been amended. Applicants note that claim 27 has been amended to correct a clerical error. These amendments do not add any new matter. Upon entry of these amendments, claims 1, 3-21 and 23-72 will remain pending in the present application and are believed to be in condition for allowance. In view of the amendments and the discussion below, Applicants request reconsideration and allowance of all pending claims.

First Rejection Under 35 U.S.C. § 103

In the Office Action, the Examiner rejected claims 1, 3-5, 9-11, 13-21, 23-25, 27, 29, 33-41, 44-46, 48-49, 51-52, 54-55, 57-60, 64-68 and 70-72 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 4,736,396 (hereinafter "Boyd") in view of U.S. Patent No. 6,272,230 B1 (hereinafter "Hiraoglu"). Applicants further note that the Application presently includes 6 independent claims, namely claims 1, 21, 41, 48, 58 and 68. Accordingly, all of the independent claims stand rejected in view of Boyd combined with Hiraoglu. In view of the above amendments and following discussion, Applicants contend that claims 1, 21, 41, 48, 58 and 68 are allowable in light of Boyd as modified by Hiraoglu.

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of

the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985). When prior art references require a selected combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gained from the invention itself, i.e., something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988). One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

The combination of Boyd and Hiraoglu is unobvious as the combination is not reasonably likely to succeed.

The Examiner relied on Boyd as teaching a system that, having a stationary radiation source and detector, is adapted to acquire intensity measurements relating to explosive materials, as well as reconstructing such measurements to generate view data through three-dimensional reconstruction techniques. *See* Office Action, p. 2. The Examiner relied on Hiraoglu as teaching “a CT system reconstruction image data representative of an explosive.” *Id.* The Examiner stated that it would be obvious to one of ordinary skill in the art to modify Boyd with Hiraoglu as it would result in “more accurate explosive detection while providing non-rotating structure.” *Id.*, p. 2-3.

Boyd teaches a computed tomography system in which an electron beam 23 is generated by a “vacuum envelope [sic] 21 which” projects “along the cylindrical portion” and is focused by focus coils 24 and then bent by bending coils 27 such that a fan-like beam is projected at the targets 26. *See* Boyd, col. 2, lines 57-64. In Boyd, both the x-ray source and the x-ray detectors are stationary. *Id.* at col. 1, lines 44-45. However, the x-ray source of Boyd includes an electron beam source covering the end of the scanner opposite a side into which a patient is positioned.

Applicants assert that transportation of articles *through the CT scanner* without rotation as now claimed would not be feasible in any combination of Boyd and Hiraoglu. In particular, Figure 2 of Boyd depicts the design, where the electron beam generation occurs directly behind and in line with the acquisition subsystem, precluding the transportation of articles *through the scanner*, as claimed. This transportation is necessary to achieve the high throughput, such as for rapid scanning of thousands of pieces of luggage or parcels. *See* App., paragraph 4. Thus, in the hypothetical combination, Boyd would simply be incapable of accomplishing these functions. *See* MPEP 2143.01 (stating that a *prima facie* case of obviousness requires a reasonable likelihood of success).

The Examiner also relied on Hiraoglu as teaching reconstruction of CT image data representative of an explosive. However, Hiraoglu, as well as Boyd, fails to teach the use of three-dimensional image analysis of detected objects to determine their identity. Accordingly, the references cited by the Examiner, even in hypothetical combinations, do not teach or suggest all elements of the independent claims. *See* MPEP 2143.

Because Boyd combined with Hiraoglu has no reasonable likelihood of success for the claimed transport through the scanner, they can not support a *prima facie* case of obviousness. In addition, the Examiner failed to reference any art that teaches three-dimensional reconstruction in addition to the other elements of the independent claims. Accordingly, Applicants request reconsideration and withdrawal of the rejection under § 103(a) of independent claims 1, 21, 41, 48, 58 and 68 and claims depending therefrom.

Second Rejection under 35 U.S.C. § 103

The Examiner rejected claims 1, 3-21 and 23-72 under 35 U.S.C. § 103(a) as unpatentable over U.S. 2004/0109532 (hereinafter “Ford”) in U.S. Patent No. 5,305,363 (hereinafter “Burke”).

Ford teaches a system for scanning objects that comprises a rotatable platform 16 on which the scanned object 13 rests during scanning by the CT system. *See Ford, Fig. 1.* This platform may also be vertically displaced. *See Ford, paragraph 49.* This movable platform may allow the acquisition system to obtain volumetric CT images. *See Ford, paragraph 0027.*

The Examiner stated that Ford teaches

an acquisition subsystem including an x-ray computed tomography scanner having a stationary radiation source (12) and a stationary detector (14), said acquisition subsystem is adapted to acquire intensity measurements pertaining to the explosive (paragraph [0002]); and a reconstruction subsystem, in communication with the acquisition subsystem, for generating view data from the intensity measurements and for reconstructing the view data into image data representative of the explosive. *See Office Action, p. 7-8.*

However, Applicants contend that Ford teaches away from the present independent claims due to its requirement of a rotatable platform for acquisition of data used to reconstruct volumetric CT images. *See Ford, paragraph 80.* Indeed, the independent claims feature conveyance of articles through a CT scanner such that the articles are not rotated during acquisition. This distinction is one of a kind, and not simply superficial. In many screening applications, it will simply be impossible or impractical to perform such rotations.

The Examiner relied on Burke as teaching three-dimensional reconstruction techniques that are conceded to be absent from Ford. *See* Office Action, p. 8. However, as Ford fails to provide the teachings relied on by the Examiner, the combination of teachings of Ford and Burke would not read on all elements of the amended claims. Accordingly, Applicants request reconsideration and withdrawal of the rejection under § 103(a) of claims 1, 3-21 and 23-72 and claims depending therefrom.

Conclusion

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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